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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/500,592	02/10/2000	Timothy Raymond Ubl	17310-220588	2837

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EXAMINER

TOLAN, EDWARD THOMAS

ART UNIT	PAPER NUMBER
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3725

DATE MAILED: 07/22/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/500,592

Applicant(s)

UBL ET AL.

Examiner

Tolan Edward

Art Unit

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-22 and 34-42 is/are rejected.
- 7) ☒ Claim(s) 23-33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 3725

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,3-22 and 34-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (6,011,239) in view of Khlif et al. (6,548,009). Singh discloses a method of adjusting static attitude of a head suspension (10) by using a laser (44,46). In column 6, lines 21-29 Singh discloses a plurality of scanning lines (102,106,110) which are irradiation regions that are to be actuated to cause a change in an angle ( $\theta$ ). In column 6, lines 47-50, Singh discloses that other regions besides the lines (102,106,110) are to be irradiated to produce differing effects. Singh does not disclose scanning the laser across a width of the suspension in a continuous mode. Khlif teaches that it is known to effect a curvature of a slider (10) by using a scanning light beam (120) which is scanned along a working surface of the slider (10). In column 6, lines 10-13 and 33-41 Khlif teaches well defined scan lines and that bands (126,127) of pluralities of scan lines (124,125) are used to effect curvature. The length of the scan lines (124,125), the number of scan lines and the size of scan lines are adjustable. It would have been obvious to one skilled in the art at the time of invention to provide a scanning across the scan lines of Singh as taught by

Art Unit: 3725

Khlif in order to effect curvature change in well defined compressive and tensile stress locations. A narrow or wider line, of differing length will obviously effect differing changes which are controlled more easily than focusing on a spot area in order to bend along a line.

***Claim Rejections - 35 USC § 103***

3. Claims 1,3-22 and 34-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (6,011,039) in view of Matsushita et al. (JP 1-227279). Singh discloses a method of adjusting static attitude of a head suspension (10) by using a laser (44,46). In column 6, lines 21-29 Singh discloses a plurality of scanning lines (102,106,110) which are irradiation regions that are to be actuated to cause a change in an angle ( $\theta$ ). In column 6, lines 47-50, Singh discloses that other regions besides the lines (102,106,110) are to be irradiated to produce differing effects. Singh does not disclose scanning the laser across a width of the suspension in a continuous mode. Matsushita teaches that it is known to scan a laser beam (11) across a width of a plate (10). The laser is moved across the width of the plate to effect a bending curvature. Figures 2 and 3 show that multiple scan lines are used to effect greater bending curvatures. It would have been obvious to one skilled in the art at the time of invention to provide a scanning across the scan lines of Singh as taught by Matsushita in order to effect curvature change in well defined compressive and tensile stress locations. A continuous scanning line, or a plurality of lines in differing regions of the workpiece will obviously effect differing changes which are controlled more easily than focusing on a spot area in order to bend along a line.

Art Unit: 3725

4. *Allowable Subject Matter*

5. Claims 23-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claims 23-33 are deemed to be allowable because they require method steps of predicting a number of scan lines necessary to compensate for pitch and roll errors from a response curve and from direct measurements of a pitch and roll error.

*Response to Arguments*

6. Applicant's arguments with respect to claims 1,3-22 and 34-42 have been considered but are moot in view of the new ground(s) of rejection. Now that Applicant has claimed a continuous scanning line Khlif and Matsushita are used to establish the obviousness of scanning continuously across a width of a workpiece. The skilled artisan would have been motivated to apply a continuous beam to Singh to effect a more controllable microadjustment. The provision of a plurality of scanning lines, a plurality of regions or the application to first and second workpiece portions is an obvious duplication of methods taught by Khlif and Matsushita.

Art Unit: 3725

7. *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication should be directed to Ed Tolan whose telephone number is 703-305-3021.

ETT 7-21-03

ED TOLAN  
PRIMARY EXAMINER  
